

## ABSTRACT

A method and apparatus for determining the distance between transitions from a first logical state to a second logical state stored on a medium (i.e., a document). This determination is used to precisely characterize the information pattern in order to authenticate the information and the medium on which the information is stored. The invention uses a reader having a leading and trailing read apparatus which allow information to be read simultaneously from two or more locations spaced a known distance apart. The distance between the centerlines of each read apparatus is preferably an odd integer multiple of one half the distance between logical clock transitions. The distance between a first transition at the leading read apparatus and a next transition at the trailing read apparatus is used as a reference (i.e., the "Reference Value"). The Reference Value is compared with the distance between the first transition and the next transition on the medium (i.e., the "Jitter Value"). Detection of an deviations in spacing between transitions is unaffected by variations in the velocity of the medium with respect to the reader.